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(54) CELL FUSION SYSTEM AND FUSED CELL SELECTION SYSTEM

(57) Abstract:

PURPOSE: To enable efficient, quick and pure selection of fused cell by supplying a liquid to a flow-type cell-fusion chamber to introduce cells into the chamber and applying electric stimulation to the cell.

CONSTITUTION: Two kinds of cells A and B are mixed with each other and put into a sample bottle 2 to obtain a mixed liquid 12. The liquid 12 is transferred through a liquid-feeding system 13a to a flow chamber 14 and excited with pulses generated from a pulse generator 15b, etc., and having a pulse width of $10\mu\text{-sec}$ to 10m-sec and a field strength of $\leq 2\text{kV/cm}$ to effect the cell-fusion. The fused cell 17 is transferred to a fused cell collection bottle 16 and the liquid is successively supplied to a flow cytometer 19 according to the pre-set condition. The liquid 17 and a sheath liquid flow are ejected at a high speed from the flow cytometer 19 through a small-nozzle flow-cell tip. A laser beam is radiated to the liquid flow and the scattering light, etc., generated by the cell is detected by a detector to

discriminate a heterocaryon from the other cells. The liquid droplet containing the heterocaryon is electrified, deflected and collected in the object fused cell collection bottle 20 to obtain a suspension 21 of the objective fused cell.

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